

The risk of new onset depression in association with influenza – A population-based observational study

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Abstract

Importance: Case-reports provided evidence that influenza infections, particularly severe episodes, may exert neuronal damage in the CNS and thereby increase the risk of depression.

Objective: It was the aim of this study to analyse the association between influenza infections and the risk of developing incident depression.

Design: We conducted a case-control analysis between 2000 and 2013 using the large UK-based primary care database Clinical Practice Research Datalink (CPRD).

Setting: This database contains anonymous longitudinal data from primary care. At present, it contains over 100 million person-years of data from some 10 million active patients.

Participants: We encompassed 103307 patients below the age of 80 years with an incident major depression diagnosis between 2000 and 2013, and matched each case to one control patient on age, sex, general practice, number of medical encounters, and years of history in the CPRD prior to the index date.

Exposure: Major depression diagnosis was identified by READ-codes based on ICD-10 codes (F32), with a minimum of three prescriptions for antidepressant drugs recorded after the diagnosis.

Main outcome: We calculated relative risk estimates of developing depression in association with previous influenza infections, stratified by the number, timing and severity of such events, and we adjusted for a variety of comorbidities, smoking status, alcohol intake, body mass index, use of oral corticosteroids, and benzodiazepines.

Results: Patients with a previous influenza infection had an increased risk of developing depression (OR 1.30, 95%CI 1.25–1.34) compared to patients with no history of influenza infections. A recent influenza infection recorded within 30–180 days prior to the index date yielded an adjusted 1.57 (95%CI 1.36–1.81), and an increasing number of previous influenza infections was associated with increasing odds ratios (≥ 3 recorded influenza infections, adjusted OR 1.48, 95%CI 1.22–1.81).

Conclusion: This study suggests that influenza infections are associated with a moderately increased risk of developing depression.

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